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SEARCH REQUEST FORM

Scientific and Technical Information Center

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Requester's Full Name: Same S Art Unit: 1623 Phone No Mail Box and Bldg/Room Location:	ımber 30 <u>8-4624</u>	Examiner #: Date: Serial Number:	17/00 484 DISK E-MAI
If more than one search is submit	ted, please prioritize *******	searches in order of need.	; :*******
Please provide a detailed statement of the so Include the elected species or structures, ke utility of the invention. Define any terms the known. Please attach a copy of the cover shadow of the cover shadow of the cover shadow.	ywords, synonyms, acrony aat may have a special mea	ms, and registry numbers, and combine within ming. Give examples or relevant citations,	th the concept or
Title of Invention: Solution	· Phase Dia	polymer Synthesis	
Inventors (please provide full names):	Huhost Kost	ber Ralph Worl	
	11-0-1-1-10-00		
Earliest Priority Filing Date:	alication is	a CON of 09/067,337	04/27/99
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Date Completed: 12-4-00	Litigation	Lexis/Nexis	
Searcher Prep & Review Time: 30	Fulltext	Sequence Systems	
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Online Time:

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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Nam Art Unit: <u>1623</u> Mail Box and Bldg/R		Date: Phone Number 308-4624 Cocation: All 7-E-12 Results Format Preferred (circle): PAPER	117/00 484 DISK E-MAIL
If more than one sea	arch is	s submitted, please prioritize searches in order of need.	·.
Include the elected species utility of the invention. D	s or struefine at py of the	ent of the search topic, and describe as specifically as possible the subject matter actures, keywords, synonyms, acronyms, and registry numbers, and combine winy terms that may have a special meaning. Give examples or relevant citations, are cover sheet, pertinent claims, and abstract. Those Biggoviner Synthesis mames): Hubert Koster Raph World	th the concept or
Earliest Priority Filing	g Date	This application is a CON of 09/067,337	04/27/98
For Sequence Searches Oi appropriate serial number.	nly Ple	ease include all pertinent information (parent, child, divisional, or issued patent number	ers) along with the
		(Amended) A liquid phase carrier (LPC) of formula Sp(X¹) _n , wherein:	
•	Sp is	a polyvalent group that has more than two points of attachment, n is the	
	numb	er of points of attachment in Sp and X ¹ is a reactive group for <u>sythesis</u>	
	[synth	neis) of biopolymers.	
		33. A method of solution phase biopolymer synthesis, comprising	
,	20	the steps of:	
. •		(a) reacting an LPC of formula Sp(X¹), with a first monomer N¹;	
		(b) separating and purifying the product of step (a) to afford a	•
		compound of formula $Sp(X^1-N^1)_n$,	
		(c) reacting the product of step (b) with a second monomer N ² , a	
•	25	or a difficility of the state o	
•		(d) repeating steps (b) and (c) to produce an LPC-bound biopolymer	
		of formula Sp(X ¹ -N ¹ -N ² N ^m) _n , where m is 3 to 100, wherein:	
		Sp is a polyvalent group that has more than two points of	•
•		attachment, n corresponds to the number of points of attachment in Sp	
	30	and X1 is a reactive group for biopolymer synthesis;	
		N ¹ , N ² , N ³ N ^m are biopolymer monomers; and	
		the dimers and trimers comprise the monomers.	,
•		48. A method of solution phase biopolymer synthesis, comprising the steps of:	
	35	F	
		(a) reacting an LPC of formula Sp(X¹), with a first monomer N¹;	
		• ***	•
		(b) separating and purifying the product of step (a) to arrord a compound of formula Sp(X¹-N¹),	• .
		(c) reacting the product of step (b) with a second monomer N ² , a dimer N ² -N ³ or a trimer N ² -N ³ -N ⁴ ; and	******
STAFF USE ONLY	5		ıble
earcher:		(d) repeating steps (b) and (c) to produce an LPC-bound biopolymer of formula $Sp(X^1-N^1-N^2N^m)_n$, where m is 3 to 100, wherein:	 ,
earcher Phone #:		Sp is a polyvalent group that has two or more points of	
earcher Location:		attachment, n corresponds to the number of points of attachment in Sp	
Date Searcher Picked Up:		and X ¹ is a reactive group for biopolymer synthesis;	
•	10	N¹, N², N³N ^m are biopolymer monomers;	 .
Date Completed:		the dimers and trimers comprise the monomers; and	
earcher Prep & Review Time:		the protocol used in steps (c) and (d) to synthesize the biopolymer,	
Clerical Prep Time:		preferably the oligonucleotide, is the phosphoramidite protocol.	
Online Time:		Other Other (specify)	

- 1. (Amended) A liquid phase cerrier (LPC) of formula $Sp(X^1)_n$, wherein: Sp is a polyvalent group that has more than two points of attachment, n is the number of points of attachment in Sp and X^1 is a reactive group for <u>sythesis</u> (syntheis) of biopolymers.
 - ${\bf 33.} \ \ {\bf A} \ \ {\bf method} \ \ {\bf of} \ \ {\bf solution} \ \ {\bf phase} \ \ {\bf biopolymer} \ \ {\bf synthesis}, \ \ {\bf comprising}$ ${\bf 20} \ \ \ \ {\bf the} \ \ {\bf steps} \ \ {\bf of};$
 - (a) reacting an LPC of formula Sp(X1), with a first monomer N1;
 - (b) separating and purifying the product of step (a) to afford a compound of formula $Sp(X^1-N^1)_n$;
 - (c) reacting the product of step (b) with a second monomer N², a dimer N²-N³ or a trimer N²-N³-N⁴; and
 - (d) repeating steps (b) and (c) to produce an LPC-bound biopolymer of formula $Sp(X^1-N^1-N^2-...-N^m)_n$, where m is 3 to 100, wherein:

Sp is a polyvalent group that has more than two points of attachment, n corresponds to the number of points of attachment in Sp and X^1 is a reactive group for biopolymer synthesis;

 $N^1,\,N^2,\,N^3...N^m$ are biopolymer monomers; and

the dimers and trimers comprise the monomers.

- 48. A method of solution phase biopolymer synthesis, comprising the steps of:
 - (a) reacting an LPC of formula $\operatorname{Sp}(X^1)_n$ with a first monomer N^1 ;
 - (b) separating and purifying the product of step (a) to afford a compound of formula $Sp(X^1-N^1)_n$,
 - (c) reacting the product of step (b) with a second monomer N^2 , a dimer N^2 - N^3 or a trimer N^2 - N^3 - N^4 ; and
 - (d) repeating steps (b) and (c) to produce an LPC-bound biopolymer of formula $Sp(X^1-N^1-N^2-...-N^m)_n$, where m is 3 to 100, wherein:
 - Sp is a polyvalent group that has two or more points of attachment, n corresponds to the number of points of attachment in Sp and X^{1} is a reactive group for biopolymer synthesis;
- 10 N¹, N², N³...N^m are biopolymer monomers; the dimers and trimers comprise the monomers; and the protocol used in steps (c) and (d) to synthesize the biopolymer,

preferably the oligonucleotide, is the phosphoramidite protocol.

- 1. (Amended) A liquid phase carrier (LPC) of formula $Sp(X')_n$, wherein: Sp is a polyvalent group that has more than two points of attachment, n is the number of points of attachment in Sp and X^1 is a reactive group for sythesis [syntheis] of biopolymers.
 - 33. A method of solution phase biopolymer synthesis, comprising20 the steps of:
 - (a) reacting an LPC of formula $Sp(X^1)_n$ with a first monomer N^1 ;
 - (b) separating and purifying the product of step (a) to afford a compound of formula $Sp(X^1-N^1)_n$;
 - (c) reacting the product of step (b) with a second monomer N^2 , a dimer N^2-N^3 or a trimer N^2-N^3 ; and
 - (d) repeating steps (b) and (c) to produce an LPC-bound biopolymer of formula $Sp(X^1-N^1-N^2-...-N^m)_n$, where m is 3 to 100, wherein:

Sp is a polyvalent group that has more than two points of attachment, n corresponds to the number of points of attachment in Sp and X^1 is a reactive group for biopolymer synthesis;

N¹, N², N³...N^m are biopolymer monomers; and

30

the dimers and trimers comprise the monomers.

- 48. A method of solution phase biopolymer synthesis, comprising the steps of:
 - (a) reacting an LPC of formula Sp(X1), with a first monomer N1;
 - (b) separating and purifying the product of step (a) to afford a compound of formula Sp(X¹-N¹)_a;
 - (c) reacting the product of step (b) with a second monomer N^2 , a dimer N^2 - N^3 or a trimer N^2 - N^3 - N^4 ; and
- 5 (d) repeating steps (b) and (c) to produce an LPC-bound biopolymer of formula $Sp(X^1-N^1-N^2-...-N^m)_n$, where m is 3 to 100, wherein:

Sp is a polyvalent group that has two or more points of attachment, n corresponds to the number of points of attachment in Sp and X^1 is a reactive group for biopolymer synthesis;

10 N^1 , N^2 , $N^3...N^m$ are biopolymer monomers;

the dimers and trimers comprise the monomers; and

the protocol used in steps (c) and (d) to synthesize the biopolymer, preferably the oligonucleotide, is the phosphoramidite protocol.